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PATENT COOPERATION TREATY
PCT

10/543077

INTERNATIONAL SEARCH REPORT
(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference MC 61109PC	FOR FURTHER ACTION See form PCT/ISA/200 and where applicable item 5 below	
International application n° PCT/FR2004/000063	International filing date (day/month/year) 14/01/2004	(Earliest) Priority date (day/month/year) 24/01/2003
Applicant : CEP INDUSTRIE		
<p>This international search report been prepared by this International Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.</p> <p>This international search report consists of a total of <u>5</u> sheets.</p> <p><input checked="" type="checkbox"/> It is also accompanied by a copy of each prior art document cited in this report.</p>		
<p>1. Basis of the report</p> <p>a. With regard to the language, the international search was carried out on the basis of the international application in the language in which it was filed, unless indicated otherwise.</p> <p><input type="checkbox"/> The international search was carried out on the basis of a translation of the international application furnished to the International Searching Authority (Rule 23.1(b))</p> <p>b. <input type="checkbox"/> With regard to any nucleotide and/or amino acid sequence disclosed in the international application, see Box No. I.</p> <p>2. <input type="checkbox"/> Certain claims were found unsearchable (see Box No. III)</p> <p>3. <input type="checkbox"/> Unity of invention is lacking (see Box No. III)</p> <p>4. With regard to the title,</p> <p><input checked="" type="checkbox"/> the text is approved as submitted by the applicant</p> <p><input type="checkbox"/> the text has been established by this Authority to read as follows:</p> <p>5. With regard to the abstract,</p> <p><input type="checkbox"/> the text is approved as submitted by the applicant</p> <p><input checked="" type="checkbox"/> the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box No. IV. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority</p> <p>6. With regard to the drawings,</p> <p>a. the figure of the drawings to be published with the abstract is Figure No. <u>1</u></p> <p><input checked="" type="checkbox"/> as suggested by the applicant</p> <p><input type="checkbox"/> as selected by this Authority, because the applicant failed to suggest a figure</p> <p><input type="checkbox"/> as selected by this Authority, because this figure better characterizes the invention</p> <p>b. <input type="checkbox"/> none of the figures is to be published with the abstract</p>		

<p align="center">INTERNATIONAL SEARCH REPORT</p>	<p align="center">International application n° PCT/FR2004/000063</p>
<p>Box No. IV Text of the abstract (Continuation of item 5 of the first sheet)</p>	
<p>The invention relates in particular to a flexible tube consisting of a skirt (1) and of a dispensing head (2), resistant to stress-cracking and forming a water barrier. According to the invention, the tube wall consists of at least one first polymer belonging to the polypropylene family and, at its mid-length from end (121) of the skirt (1) distant from the head (2) as far as end (121) of the neck (4) forming the evacuation orifice (3) of the tube, has a thickness of between 0.30 mm and 1.00 mm and a flexural modulus of between 700 MPa and 80 MPa, the flexural modulus values of the wall constituents being chosen to follow a law of maximum dispersion. This tube finds application in the packaging of any products, in particular of paste products in the cosmetic and pharmaceutical areas.</p>	

PATENT COOPERATION TREATY

From the:
INTERNATIONAL SEARCHING AUTHORITY

Sender:

See form PCT/ISA/220

PCT

WRITTEN OPINION OF THE INTERNATIONAL SEARCHING AUTHORITY (PCT rule 43.1 bis)

Date of mailing
(day/month/year) see form PCT/ISA/210 (sheet two)

Applicant's or agent's file reference
See form PCT/ISA/220

FOR FURTHER ACTION
See paragraph 2 below

International application n°
PCT/FR2004/000063

International filing date (day/month/year)
14.01.2004

Priority date (day/month/year)
24.01.2003

International Patent Classification (IPC) or both national and IPC classification
B29D23/20, B29C45/36, B65D35/08

Applicant:
CEP INDUSTRIE

1. This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☒ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☐ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Rule 43bis 1(a)(i) with regard to novelty, inventive step or industrial applicability, citations and explanations supporting such statement.
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application.

2. FURTHER ACTION

If a demand for international preliminary examination is made, this opinion will be considered to be a written opinion of the International Preliminary Examining Authority ("IPEA") except that this does not apply where the applicant chooses an Authority other than this one to be the IPEA and the chosen IPEA has notified the International Bureau under Rule 66.1bis(b) that written opinions of this International Searching Authority will not be so considered.

If this opinion is, as provided above, considered to be a written opinion of the IPEA, the applicant is invited to submit to the IPEA a written reply together, where appropriate, with amendments, before the expiration of 3 months from the date of mailing of Form PCT/ISA/220 or before the expiration of 22 months from the priority date, whichever expires later.

For further options see Form PCT/ISA/220 PCT/ISA/220.

3. For further details, see notes to Form PCT/ISA/220.

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**WRITTEN OPINION OF THE INTERNATIONAL
SEARCHING AUTHORITY**

International application n°
PCT/FR2004/000063

Box No. 1

Basis of this opinion

1. With regard to the **language**, this opinion has been established on the basis of the international application in the language in which it was filed, unless indicated otherwise

- ☐ a translation of the international application into _____, which is the language of a translation furnished for the purposes of international search (Rules 12.3 and 23.1(b)).

2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application and necessary to the claimed invention, this opinion has been established on the basis of:

a. Type of material:

- ☐ a sequence listing
☐ table(s) related to the sequence listing.

b. Format of material:

- ☐ on paper in written form
☐ in electronic form or computer decipherable form

c. Time of filing/furnishing:

- ☐ contained in the international application as filed
☐ filed together with the international application in electronic form
☐ furnished subsequently to this Authority for the purposes of search

3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table(s) relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.

4. Additional comments:

**WRITTEN OPINION OF THE
INTERNATIONAL SEARCHING
AUTHORITY**

International application n°
PCT/FR2004/000063

Box No. II Priority

1. ☒ The following document(s) have not yet been furnished:

☒ Copy of the earlier application whose priority has been claimed (Rules 43bis.1 and 66.7(a)).

☐ Translation of the earlier application whose priority has been claimed (Rules 43bis.1 and 66.7(b)).

The validity of the priority claim has therefore not been considered. This opinion has nevertheless been established on the assumption that the relevant date is the claimed priority date.

2. ☐ This opinion has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rules 43bis.1 and 64.1). Thus for the purposes of this opinion, the international filing date indicated above is considered to be the relevant date.

3. Additional observations if necessary:

Box No. V Reasoned statement under Rule 43bis.1(a) (i) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty	Yes:	Claims	1-36
	No:	Claims	
Inventive step	Yes:	Claims	1-36
	No:	Claims	
Industrial applicability:	Yes:	Claims	1-36
	No:	Claims	

2. Citations and explanations

see separate sheet

Concerning point V

1. Reference is made in this opinion to the following documents:

- D1: WO 01/68355 A (CEP IND; DAMBRI/COURT GERY (FR)) 20 September 2001 (2001-09-20)
D2: WO 98/36905 A (BUZIO PIERPAOLO; INCOLLINGO ITALO (IT); BAXTER INT (US) 27 August 1998 (1998-06-27)

2. Document D1 which is considered as representing the most relevant state of the art (the references between brackets apply to this document) describes:

Tube resistant to stress-cracking and forming a water barrier (p.1, l.4-5) essentially consisting of a flexible skirt (p.1, l.20) elongate along an axial direction (fig. 4-6) and of a head comprising at least one evacuation orifice and a neck forming a radial extension of the orifice and being joined to the skirt in an axial direction (fig; 8-9), at least the skirt and neck forming a single-piece assembly (p.23, l. 24-25), the tube wall consisting of a mixture of a number "n" at least equal to 1 of polymers belonging to the family of copolymers-olefins prepared from C₂ to C₁₀ monomers, and
at its mid-length, along an axial direction from the end of the skirt that is distant from the head as far as the end of the neck forming the evacuation orifice, has a wall thickness of between 0.30 mm and 1.00 mm (p.11, l.1).

From which the subject of independent claim 1 differs in that:

- at least one polymer of the mixture belongs to the polypropylene family (the additional characteristics given in claim 1 concerning the flexural modulus and the dispersion factor result from the characteristics of the material).

2.1 The subject of claim 1 is therefore novel [PCT article 33(2)].

The problem to be solved by the present invention can be considered as:

An alternative manner of providing a flexible tube, resistant to stress-cracking and forming a water vapour barrier.

- 2.2 The solution to this problem proposed in claim 1 of the present application is considered as involving an inventive step [PCT article 33(3)], on the following grounds:

There is no indication in the closest prior art that persons skilled in the art would combine the subject of claim 1 to obtain a tube according to claim 1 .

Document D2 which describes the material ADFLEX C 200 F deals with a different issue.

The invention is therefore not obvious.

- 2.3 Claims 2-35 are dependent upon claim 1 and therefore, as such, also meet PCT requirements regarding novelty and inventive step.

3. Document D1, which is considered as representing the most relevant state of the art (the references between brackets apply to this document) describes:

method for fabricating a flexible tube consisting of a skirt and of a head comprising at least one evacuation orifice and a neck forming a radial extension of the orifice and being joined to the skirt, at least the skirt and neck forming a single-piece assembly, resistant to stress-cracking and forming a water barrier, comprising the steps consisting of:

- using as wall constituent material a mixture of a number "n" at least equal to 1 of polymers belonging to the family of copolymers-olefins prepared from C₂ to C₁₀ monomers,
- fabricating the skirt and head by injection of the mixture in a single injection operation into an injection mould comprising an impression and a core, said core comprising a central part of which a free upper end centre bears upon the impression at least during the injection of the skirt.

From which the subject of independent claim 36 differs in that:

- at least one polymer of the mixture belongs to the polypropylene family (the additional characteristics given in claim 36 concerning the flexural modulus result from the characteristic of the material).

3.1 The subject of claim 36 is therefore novel [PCT Article 33(2)].

The arguments set forth concerning the problem of the present invention and regarding inventive step [PCT Article 33(3)] are similar to the arguments set forth for claim 1 (see items 2, 2.1 and 2.2).